

REMARKS

Claims 1 and 3-8 are pending in this application and stand rejected. Claim 2 has been cancelled and claims 1 and 3-8 have been amended. The specification has been revised slightly to correct an inadvertent typographical error. Claims 1 and 8 remain independent.

Pursuant to the discussion at page 2, section 1, of the Office Action, the reference mentioned in the specification has been cited in the accompanying Information Disclosure Statement. The Examiner is thanked for calling attention to this point.

**The Rejection Under
35 U.S.C. § 112, ¶**

Claims 1-8 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of Applicants' invention. The Office Action identified claim language said to be unclear. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

First, it will be appreciated that the cancellation of claim 2 renders moot the corresponding portion of this rejection, and so withdrawal of that claim rejection is required.

Insofar as the Office Action deemed the term "and/or" to be confusing, the claims have been revised to use the expression "at least one of A and B". As is well-known, this expression encompasses the use of any of A alone, B alone, and A with B.

Claim 1 has been revised to establish an antecedent basis for the "surface of said paperboard".

For all the foregoing reasons, favorable reconsideration and withdrawal of these rejections are respectfully requested.

**The Rejections Under
35 U.S.C. § 102**

Claims 1, 2 and 7 have been rejected under 35 U.S.C. § 102(b) as being anticipated by what the Examiner referred to as Applicant's admitted prior art ("AAPA"). Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

First, it will be appreciated that the cancellation of claim 2 renders the corresponding portion of this rejection moot.

As described in claim 1, Applicants' invention involves a method for controlling a slitter-scoring apparatus. This involves the steps of supplying a paperboard sheet along a feed line and moving a slitter/scorer (having at least one of a slitter and a scorer) in at least one of a vertical and a widthwise direction to an operative level where a surface of the paperboard sheet is processed thereby. When the slitter/scorer moves from a first widthwise position of a first operative position to a second widthwise position of a second operative position, the slitter/scorer is caused to start moving only in the vertical direction while a level of the at least one of the slitter/scorer is between a bottom surface of the paperboard sheet and a top surface of the paperboard sheet. The slitter/scorer is moved simultaneously in the vertical direction and in a cross machine direction so that it moves diagonally toward the second cross machine position at least one of before and after the slitter/scorer moves only in the vertical direction.

In particular, it should be noted that claim 1 provides the slitter and/or scorer begins moving only in the vertical direction and then is moved diagonally toward the second widthwise position before and/or after such vertical movement.

By way of illustration only, and not limitation, Applicants call attention to Figs. 10 and 11, especially segments P1 to P2 and P2 to P3. These drawings show how the slitter or

scorer is diagonally moved toward the second widthwise position after it is moved in the vertical direction, whereas as shown by segments P4 to P5 and P5 to P6, the slitter or scorer is moved diagonally toward the second widthwise position before it is moved in the vertical direction.

A difference between Figs. 10 and 11 is that in Fig. 10, the slitter or scorer is caused to start moving diagonally when its level is not between P1 and P2, or P5 and P6. In contrast, in Fig. 11, the slitter or scorer is caused to start moving diagonally when its level is between P1 and P2, or P5 and P6.

Figs. 10 and 11 do have in common that the slitter or scorer is caused to start moving only in the vertical direction from P1 in the case of the vertical movement P1 to P2, and from P5 in the case of the vertical movement P5 to P6, that is, while its level is between a bottom surface of the paperboard and a top surface thereof.

It should be understood that amended claim 1 covers both of the situations corresponding to Figs. 10 and 11.

The AAPA is said only to teach supplying a paperboard sheet along a feed line and moving the slitter/scorer in a vertical and/or widthwise direction to an operative level, the surface of the paperboard sheeting being processed thereby, and motion of the slitter/scorer being controlled so that it either comes into sliding contact or is slightly apart from the paperboard sheet's surface (Office Action, p. 3, § 5). However, that description is not accurate.

The AAPA **does not teach** motion of the slitter and/or scorer is controlled so the slitter and/or scorer comes into sliding contact with, or is spaced slightly apart from, the surface of the paperboard sheet. This is clear from the AAPA in the specification at page 2, lines 1-10; this passage points out the slitter and/or scorer used in prior art systems were moved by pistons,

and the pistons were only able to have one of two positions, extended or contracted. As a result, the slitter and or scorer only could be positioned at an operative level or a retracted level.

Nor does the AAPA teach that a slitter/scorer is moved simultaneously in the vertical direction and in a cross machine direction so that it moves diagonally toward the second cross machine position at least one of before and after the slitter/scorer moves only in the vertical direction, as claimed. The Office Action **admits** this deficiency in a later rejection, stating "**AAPA teaches the invention . . . except for the step of moving a slitter simultaneously in a vertical direction and horizontal direction**" (Office Action, pg. 4, § 8) (emphasis added).

In contrast, as explained above, the present invention provides for just that type of motion of the slitter and/or scorer. Such motion is in no way suggested by the cited AAPA.

It is well-accepted that a reference which does not identically disclose all the features of a claimed invention cannot anticipate that invention. Here, the AAPA does not even suggest moving the slitter and/or scorer in the manner of the claimed invention. Accordingly, the AAPA does not anticipate or render obvious the present invention.

Claim 7 ultimately depends from, and so incorporates by reference all the features of, claim 1, including those features just shown to patentably distinguish over the AAPA. Claim 7 therefore patentably distinguishes over the AAPA at least for the same reasons as claim 1.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claim 8 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Appln. Publn. No. 2001/0002560 to Aoki. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Claim 8 involves a method for controlling a slitter-scorer apparatus by the steps of supplying a paperboard sheet along a feed line, and moving at least one of a slitter and a scorer in at least one of a vertical and a widthwise direction between an operative level thereof where the paperboard sheet is processed and a retracted level where jamming of the paperboard sheet is avoided. The method also includes positioning at least one of the slitter and the scorer in a standby position which is more proximal to a surface of the paperboard than the retracted level, while at least one of the slitter and scorer does not work upon the surface of the paperboard.

In contrast to the claimed invention, Aoki merely discloses that a slitter is moved in the vertical direction. However, Aoki does not disclose that the slitter is caused to start moving in the vertical direction while the level of the slitter is between the bottom surface of the paperboard and the top surface thereof. Nor does Aoki even suggest the claimed diagonal motion of the scorer/slitter. As explained at ¶¶ 33-34, Aoki just moves the upper shaft 2U to a retracted position (out of engagement with the workpiece) and then actuates the knife-moving mechanism 6U to move the knives in the widthwise direction. In other words, Aoki neither discloses nor suggests that the slitter is caused to vertically move **before** it comes out of the bottom (in a case where it is moved downward), or before it comes out of the top surface (in a case where it is moved upward). Aoki just retracts the knives vertically, moves them horizontally, and thereafter moves them vertically to contact the workpiece.

Insofar as the Office Action contends at page 4, second full paragraph, that Aoki teaches positioning at least one of the slitter and scorer in a standby position which is more proximal to the surface of the paperboard than the retracted level, while the slitter and scorer does not work on the surface of the paperboard, Applicants respectfully disagree. Applicants submit that, according to Aoki, the "upper shaft 2U is rotated by a rotating mechanism (not

shown) in the direction of arrow D between a cutting position shown by the solid line in Fig. 1 and a retracted position shown by the broken line" (page 2, ¶ [0028]). Thus, Aoki merely discloses there are two levels, an operative level and a retracted level. However, Aoki neither discloses nor suggests a standby position which is nearer to the surface of the paperboard than the retracted level.

Applicants submit that the technical significance of providing this standby position (a third level) is recognized in the Summary of the Invention section of this application's specification (page 9, line 19, through page 10, line 1), where it is stated that "the time needed for the movement of the slitter and/or scorer to the operative level upon an order change will be shortened . . . thereby increasing the available yield percentage of the paperboard product, even when the slitter and/or scorer is moved to the operative level after an operation start command has been received."

In contrast, Aoki does not explicitly disclose that during the time period when the cutting knife arrangement is switched, the sheet to be cut continues to be fed, the available yield percentage of the paperboard product does not matter at all.

It is well-accepted that a reference which does not identically disclose all the features of a claimed invention cannot anticipate that invention. Here, Aoki does not even suggest seals having all the features discussed above. Accordingly, Aoki does not anticipate or render obvious the present invention.

Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

**The Rejection Under
35 U.S.C. § 103**

Claims 3-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the AAPA in view of U.S. Patent No. 4,506,577 to Shinomiya. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Claims 3-6 ultimately depend from claim 1, and so incorporate by reference all the features of claim 1, including those features which already have been shown to patentably distinguish over the AAPA.

As explained below, Shinomiya does not remedy the deficiencies of the AAPA.

Applicants submit that since Shinomiya states "the supporting arm 13 may be swingable about the screw rod 16 and at the same time may be movable along; the axial direction of the screw rod 16" (col. 3, lines 10 to 13), it will be appreciated that the rotary cutter 3 can only diagonally moved. That is because the supporting arm 13 includes the screw rod 16 on the end portion 15 of the supporting arm 13, so that when the rotary cutter 3 is caused to swing in order to prevent the vertically adjacent rotary cutters 3,4 from being overlapped with each other in a case where the cutters have to be moved to a next position, the movement of the rotary cutter 3 inevitably involves the one in the horizontal direction which is guided along the pitch of the screw, whereby the rotary cutter 3 is caused to diagonally move.

Accordingly, Applicants submit Shinomiya does not remedy the deficiencies of the AAPA.

This rejection is also deficient because the Office Action fails to provide any justification for the combination of the AAPA with Shinomiya. M.P.E.P. § 2143 states that:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. (citation omitted).

In this regard, Applicants respectfully submit such combination has not been suggested by the Office Action and it not suggested by the references. The problem of meandering of the paperboard existing in the art that is solved by the present invention is neither suggested not disclosed in Shinomiya patent.

Moreover, in the present invention as claimed, the slitter or the scorer can be moved only in vertical direction, or in the diagonal direction by the combination of vertical and horizontal movements. Prior teachings did not suggest this.

Thus, one benefit that can be obtained from the present invention is a reduction in the time period needed for setting up the slitter and the scorer for a next operation through the diagonal movement of the slitter or the scorer by the combination of its vertical and its horizontal movements. At the same time meandering of the paperboard can be effectively prevented due to the fact that the slitter or the scorer is caused to start moving only in the vertical direction while its level is between the bottom and the top surfaces of the paperboard in order to shorten the time needed for the slitter or the scorer to pass through the thickness of the paperboard.

In this regard, it should be kept in mind that diagonal motion of the slitter or the scorer during the time it passes through the thickness of the paperboard can increase the time it takes to move the distance between the top and the bottom surfaces of the paperboard, thereby enhancing the possibility of the meandering of the paperboard.

Also, the problem of reducing the time for setting up the slitter or the scorer is not disclosed in the cited art. Rather, such art just teaches that the slitter is moved in the vertical direction to a retracted level where jamming of the paperboard sheet can be avoided.

Further, the problem of meandering of the paperboard during the setting up process is neither suggested nor disclosed.

For all the foregoing reasons, there is no suggestion to combine the AAPA with Shinomiya, and, even if that combination is made, the resulting teachings still do not suggest the claimed invention.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

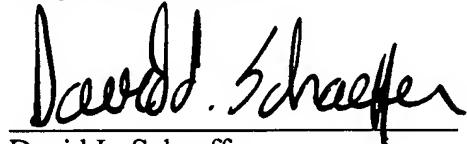
CONCLUSION

It is respectfully submitted that all outstanding rejections have been overcome. Accordingly, favorable consideration and prompt allowance of this application is respectfully requested.

Other than the extension fee authorized in the accompanying Petition for Extension of Time, no fees are believed to be due in connection with the filing of this Amendment. Nevertheless, should the Commissioner deem any fee to be now or hereafter due, the Commissioner is authorized to charge all such fees to Deposit Account No. 19-4709.

In the event that there are any questions, or should additional information be required, please contact Applicants' attorney at the number listed below.

Respectfully submitted,



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